

**Title:** Age is a risk factor for coincidental colorectal cancer in patients presenting with anemia at celiac disease diagnosis

**Authors:**

Aneli Katunin, Linnea Aitokari, Tuire Ilus, Heini Huhtala, Rakel Nurmi, Katri Kaukinen, Kalle Kurppa

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**Abstract**

Anemia is common in patients with untreated celiac disease (CeD) and does not appear to predict significant coincidental findings in diagnostic esophagogastroduodenoscopy, but the risk of abnormalities in colonoscopy is unclear.

The aim was to compare the prevalence of malignancies and other significant abnormalities in gastrointestinal endoscopy between CeD patients and non-CeD controls presenting with anemia, and to find predictors for the findings in CeD patients.

Medical data and findings in upper and lower endoscopies of 173 CeD patients and 350 controls presenting with anemia were collected. Regression analysis was utilized to find predictors for significant findings.

CeD patients were younger (median 50 vs 66 years,  $p < 0.001$ ) and had less often previously diagnosed comorbidities (any 58% vs 83%,  $p < 0.001$ ; malignancies 1% vs 8%,  $p = 0.002$ ), smoking (13% vs 25%,  $p < 0.001$ ) and alcohol abuse (4% vs 14%,  $p < 0.001$ ) than controls. CeD patients and controls did not differ in the prevalence of upper gastrointestinal malignancies (0% vs 2.8%,  $p = 0.176$ ) or colorectal cancer (3.5% vs 5%,  $p = 0.323$ ). Older age was a significant risk factor for colorectal cancer in CeD patients (OR 1.15, 95% CI 1.04-1.28). All CeD patients diagnosed with colorectal cancer were  $>50$  years of age and had iron deficiency.

Although non-CeD controls were older and had more risk factors for malignancies, there was no difference in the incidence of upper gastrointestinal malignancies or colorectal cancer between the groups. Age was a significant risk factor for colorectal cancer, and particularly elderly CeD patients presenting with iron deficiency anemia should undergo routine colonoscopy.